

Primary Care Networks: exploring primary care commissioning, contracting, and provision

PRUComm: NIHR Policy Research Unit in Health and Social Care Systems and Commissioning

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Interim report

Disclaimer: This report represents the findings from independent research commissioned by the Department of Health and Social Care and carried out by the Policy Research Unit in Health and Social Care Systems and Commissioning (PRUComm). PRUComm is funded by the National Institute for Health Research (NIHR) Policy Research Programme (Ref: PR-PRU-1217-20801). The views expressed are those of the authors and not necessarily those of the Policy Research Programme, NIHR or the Department of Health and Social Care.

Executive summary

Introduction

This report presents activities and findings of the first 12 months of a (36 month) project exploring issues of commissioning, contracting and delivery of primary care services in the English NHS relating to Primary Care Networks, and the impact and outcomes of those processes on care provision.

This interim report addresses the following research questions:

1. *Understanding the new system*
 - a. What are the objectives underlying current changes to primary care commissioning and contracting?
 - b. What beneficial outcomes are expected, by whom, and by what mechanisms?
 - c. How have collaborative networks been established?
 - d. What commissioning and contracting mechanisms are CCGs and NHS England using to support neighbourhood collaborative working?
2. *The operation of network collaborative working*
 - a. How are GP practices working together and with other community providers, across which domains?
 - b. What factors have supported and enabled the development of network working?
 - c. What issues have arisen in developing networks?
 - d. How are networks working with other organisations at 'neighbourhood', 'place', and 'system' levels?
 - e. How have networks attempted to incorporate patient views into decision making about how networks are being organised?

Two further sets of research questions focusing on the *outcomes of network collaborative working* and *Covid-19 and network collaborative working* will be addressed during the remainder of the study.

Methods

The project comprises four Work Packages (WPs):

- WP1: In-depth exploration of the objectives and intentions underlying current policy changes
- WP2: Overview of network arrangements through surveys and interviews
- WP3: Understanding local network arrangements through case studies
- WP4: Quantitative exploration of network development and outcomes
 - WP4a: Network characteristics, variation, and existing GP ventures
 - WP4b: Impacts on inputs, activity, quality and outcomes

This report presents findings from WP1, and emerging findings from WP2 and WP4a. WP3 and WP4b are yet to commence.

WP1 involved 16 semi-structured interviews (July 2019-October 2019) with purposively sampled senior policy makers and national-level policy stakeholders. WP1 is now complete.

WP2 features a telephone survey with CCG PCN leads. The first round of the survey (conducted August 2019-December 2019) involved 37 respondents discussing 55 CCG areas (due to impending CCG mergers). A final round of the survey is scheduled for summer 2021. An additional round of the

survey focusing particularly on PCN responses to Covid-19 and the consequences of the pandemic for PCN development and operation has been arranged and will begin late summer 2020.

WP3 involves in-depth qualitative case studies of PCNs in five CCG areas nationwide. This work will commence shortly. WP4a is nearing completion. WP4b will begin later this year.

Findings

In this section we provide brief answers to our research questions based on the work conducted during the project so far. These are inevitably partial at this stage and will evolve as the research progresses. Findings come from WP1, WP2, WP4a.

Research Question (RQ) 1a: What are the objectives underlying current changes to primary care commissioning and contracting?

Three main groups of policy objectives were identified by senior policy makers and national-level policy stakeholders, which constitute the following themes: (1) use inter-GP practice collaboration to support a primary care sector which is struggling; (2) align primary care more closely with other community services, improving integration and service delivery and adopting a population health approach; (3) and provide a collective 'voice' for primary care in the wider system. Each was very broad, encompassing a significant number of potential objectives, mechanisms and expected outcomes. Most interviewees primarily emphasised (1), followed by (2), then (3), if at all. The variation in emphasis between interviewees was notable, which highlights the possibility of misunderstandings between groups of stakeholders who espouse different objectives. Themes were also, in some cases, considered to form a temporal sequence, e.g. (1) was a necessary first step before (2) could be more fully realised. However, others suggested this was the other way around. This process has highlighted the breadth of interpretation around what PCNs are intended to achieve and how they might do so.

RQ1b: What beneficial outcomes are expected, by whom, and by what mechanisms?

Under the themes outlined above, WP1 interviewees identified a significant number of potential beneficial outcomes and associated mechanisms. The most commonly reported of these are set out here (level one bullet points are outcomes, level two are mechanisms, although the distinction between the two was frequently blurred):

- Addressing the general practice workforce crisis
 - New Additional Roles Reimbursement Scheme (ARRS) staff will reduce pressure on GPs by taking on work GPs would otherwise have to do; general practice career will become more attractive for prospective GPs.
- Increased general practice resilience
 - Provision at a larger scale will provide a 'buffer' to deal with challenges practices face (e.g. short staffing)
- Increase/improve inter-practice collaboration and relationships
 - Financial incentivisation through the Network DES will drive collaborative behaviour
 - Sharing of learning, data, resources, and risk to build trust
- Place-based organisational collaboration beyond general practice
 - GPs will be freed up (through ARRS) to engage with a broad range of local organisations
 - Easier for community health services to engage with PCNs than individual practices
- Improve patient experience
 - Care will be more 'joined up' across organisations due to more integrated working
 - ARRS staff will be more accessible and provide a better service offer, and pressure on GPs will be lessened

- Continuity will be retained
- Improve patient outcomes
 - Patients connected to broader social support (improve wellbeing, reduce isolation)
 - Patients will be better educated to look after their own health
- Variations in care and inequalities will be reduced
 - Best practices will spread within PCNs
 - Service specifications will embed best practices nationally; the online dashboard will facilitate this
- National level investment in primary care will be justified
 - Delivery of the service specifications
- PCNs will shape the system
 - Clinical Directors will influence provider organisation through ICS/STP

WP2 survey respondents – i.e. those in CCGs with particular knowledge of local PCN activities – identified a number of expected benefits of PCNs for different groups/organisations:

- Patients:
 - Increased consistency of care, and improved access to and quality of care due to greater sharing of resources and experience between practices.
- General practices:
 - The introduction of more professionals in a variety of roles through the ARRS will allow GPs to make more effective use of their own time.
 - Collaboration with other member practices would create opportunities for skill sharing, challenge, and support, and potentially increase the prevalence and consistency of high quality service provision across practices. Consequently, general practice will be made more resilient and the existing business model protected.
- CCG:
 - Working more with PCNs than individual practices will reduce the number of conversations necessary and increase efficiency. PCNs might drive more provider led solutions to various local issues.

In some cases, the basis on which mechanisms are assumed to lead to outcomes was unclear. For example, interviewees identified the activities carried out by newly appointed ARRS staff as leading to a reduction of GP workload and pressure, but there is a lack of evidence for such unproblematic substitution.

RQ1c: How have collaborative networks been established?

The primary establishment mechanism for PCNs is contractual: the Network Directed Enhanced Service (DES) is an 'add-on' to the GMS/PMS/APMS contract. PCNs then had to agree a model for collaboration. CCG interviewees reported that the majority of practices were using a flat practice approach (i.e. a member practice is nominated payee and receives PCN funding; ARRS staff are employed under shared employment contracts between all practices). Those PCNs that opted for other models such as a GP Federation entity did so because of existing collaborative arrangements. For those that had not worked together before, the flat practice collaborative approach was felt to be appropriate as it would allow practices to work together on an equal footing. Where strong relationships already existed, areas were more likely to be happy with a 'lead practice' model.

Our WP4a analysis of PCN characteristics in January 2020 revealed that the size of 58% of PCNs was in the recommended patient population range (30,000-50,000); 7% were under-sized and 35% over-sized. 34 PCNs contained a single GP practice and 77 contained more than 10 practices. There was a high degree of variation within PCNs in terms of practice size, and between PCNs in terms of number of member practices and the population covered.

RQ1d: What commissioning and contracting mechanisms are CCGs and NHS England using to support neighbourhood collaborative working?

The majority of CCGs that engaged with our survey were not using any other contractual mechanisms beyond the Network DES. This will be explored in more detail during the remainder of the project.

RQ2a: How are GP practices working together and with other community providers, across which domains?

It is too early to answer this question fully. The WP2 survey revealed a small number of instance where practices were, at that time, working with other organisations. This was in relation to pre-existing programmes of work or local pathways. There was variation between PCNs within CCG footprints, with PCNs in some areas identifying organisations to work with, based on their own PCN requirements. Examples of PCNs working with others include:

- Working with a local federation to deliver the extended hours requirement of the contract
- Accessing additional social prescribing link workers through working with local voluntary sector organisations.
- Conducting some asset mapping work alongside community trust, public health and local authority staff

RQ2b: What factors have supported and enabled the development of network working?

In many cases, the composition and operation of PCNs has been shaped by how general practice has been working/worked for a number of years. GPs collaboration has been encouraged through numerous policy initiatives including Practice Based Commissioning and New Care Models. These and other processes of organisation and working, such as CCG localities and Federations, have shaped how PCNs have formed. Relationships were a key factor in developing PCNs, GPs know who they like and who they work well with and sought to organise themselves on this basis where permissible. The LMC was recognised as an important player in helping get general practice to sign up to the Network DES, encouraging local conversations and having the ability to sway general practice in favour of the PCN policy.

RQ2c: What issues have arisen in developing networks?

The short time frame for PCNs to establish themselves was challenging for practices, providing little opportunity for trusting and productive relationships to form between practices that lacked a history of inter-organisational collaboration. CCG interviewees perceived the weight of expectations placed on PCNs to be problematic and suggested it was important for PCNs to have an opportunity to become established and develop the basis for solid relationships before being faced with performance measures. In various local areas, GPs working collaboratively, often with other system partners, has been in place for some time. In such areas, CCGs found it challenging to facilitate the protection of existing collaborative arrangements while simultaneously encouraging practice involvement with PCNs.

Our analysis of PCN characteristics highlighted notable variability in terms of PCN size (patient population), number of practices per PCN, and the level of health care need of patients between PCNs. The extent to which these factors contribute to operational issues and performance remains to be seen and will be investigated throughout the remainder of the project.

RQ2d: How are networks working with other organisations at 'neighbourhood', 'place', and 'system' levels?

Our analysis of PCN composition has highlighted the fact that PCNs do not cover neat geographical footprints, with considerable overlap between PCNs in some areas. We will explore whether and in what ways this impacts upon collaborative relationships in the next phase of the project. The WP2 survey captured some early examples of general practices working collaboratively with other organisations at different levels, but this picture is likely to develop further as the project continues.

- Neighbourhood:
 - MDT working in some areas, focus on specific schemes i.e. extended access.
 - Some local organisations had come together to do some asset mapping. This was generally not systematic and varied from PCN to PCN within a CCG footprint.
- Place
 - Some PCN Clinical Directors had taken up seats on A&E delivery boards.
 - Some Clinical Directors were engaging with pre-existing partnerships, such as Integrated Care Partnerships.
 - Many CCGs are planning to merge in the near future and scale up to sit more at system level. There is a lack of clarity regarding how primary care commissioning will function effectively at place level as this process progresses.
- System
 - There were very limited examples of system level PCN engagement at this time.
 - CCG respondents emphasised that they wanted to ensure that the PCN 'voice' was represented at system level and were actively facilitating links with STPs/ICSs.
 - There were negotiations taking place in some areas about what kind of role Clinical Directors would play within the ICS.

RQ2e: How have networks attempted to incorporate patient views into decision making about how networks are being organised?

Little engagement with patients and the public was reported during the WP2 survey. Some interviewees suggested that the fast pace of the policy had meant that PCNs had not had the time to engage with the public meaningfully. This was variable across different CCG footprints, however; in areas where engagement was discussed, respondents described a process of informing patients of PCNs through existing arrangements such as Patient Participation Groups. This was an area that CCG interviewees highlighted as requiring greater attention from PCNs when they were more established.

Discussion

When launched the PCN policy was characterised by a broad and varied set of objectives and aspirations. Policy makers emphasised different aspects and temporal sequencing of the policy to us, which suggested a lack of a unified vision for precisely what PCNs were and what they were for. This breadth can be helpful in facilitating the early 'buy-in' of stakeholders, but creates the conditions for some of those stakeholders to be disappointed once practical implementation details are specified. This helps to explain some of the negativity from GPs that met the launch of the draft GP contract and service specifications in December 2019 (Serle 2020). Additionally, some of the mechanisms that interviewees expect will lead to the realisation of policy objectives, such as GP work being reduced overall as a result of certain activities being taken up by new ARRS staff, are not supported by a robust evidence base.

Through our survey of CCG PCN leads and analysis of information from NHS Digital, we have established a picture of the characteristics and variability of PCNs as well as insights into local context and history, processes of establishment, and dynamics between provider and commissioner. 58% of PCNs represent between 30,000 and 50,000 patients, the size originally identified in the policy as a requirement for optimal operation. There is considerable variety in terms intra-PCN

practice size, and inter-PCN practice numbers. We will consider the implications of this variation in the next phase of this research. Local inter-organisational collaboration in primary care has a rich history, and pre-existing local initiatives and collaborative arrangements have been important in how many PCNs have formed. There is a considerable diversity within CCGs in terms of the strength of pre-existing relationships between practices in particular PCNs and the extent of shared trust.

One of the objectives for PCNs is for them to form the basis of comprehensive multi-agency services for particular geographical populations, collaborating with other relevant service providers and local community groups. Our research to date has demonstrated that such interactions with other services may be complicated due to overlapping geographies. This may not matter in some areas, but in others it may create work for other services in trying to establish collaborative structures with multiple PCNs which do not map onto their own service boundaries.

Policy recommendations:

- If PCNs are to provide population-based care, collaborating with other organisations covering the same geographical area, then relatively coherent geographies will be required. Complexity of PCN footprints would be reduced if out of area registrations were discouraged.
- PCNs and community services should be supported to engage with each other – this will require facilitation by the commissioner, and local contracts may need to take account of these interactions by, for example, including clauses which require services to work together and be flexible over the way that their teams are constituted
- PCNs should be provided with dedicated management resource and encouraged to employ a manager to support the CD
- CCGs should have lead role in supporting PCNs, and if they merge to form large organisations they will need to have robust sub-structures which can support PCNs appropriately. Clarity is required over the respective roles of CCGs and NHSE regional offices

During the remainder of the project we will focus on:

- Governance and collaborative structures
- The operation of the Investment and Impact fund
- Horizontal and vertical collaborations
- The roll out of the service specifications
- The operation of the AARs, and its impact on practices
- Ongoing quantitative examination of PCN constitution and associated outcomes.

Chapter 1: Introduction and context

The Long Term Plan, new GP contract, and NHS Operational Planning and Contracting Guidance 2019/20 set out a direction of travel for local service commissioning and provision which suggests that primary care services will be increasingly delivered by collaborating networks of practices operating at what has been called ‘neighbourhood’ level, usually defined as covering populations of 30-50,000. Whilst GP practices have collaborated together for a variety of purposes for many years (Humphrey and Berrow 1993; Department of Health 2004; Pickin et al. 2004), the new contract proposals envisage a closer working relationship than we have seen before, including: shared employment of staff; network-level contracts, payments and incentives; and collaboration over back-office functions. It is argued that these developments will support the integration of services between primary, community, secondary and social care, and ensure the sustainability of primary care services for the future, whilst improving the quality of services delivered to patients.

Our previous research on primary care co-commissioning (Checkland et al. 2018), practice-based commissioning in the late 2000s (Coleman et al. 2009) and GP federations (McDonald et al. 2020) has highlighted a number of important issues associated with planning and contracting for primary care services. These include: the importance of local relationships and managers who understand the local provider landscape; the influence of previous experiences of local collaboration; complexities associated with network-level incentives, including free-riding and peer-peer relationships; and the wide variation in practice processes and procedures. In addition, networks will develop within a complex landscape of historical and existing collaborative relationships, including the existence of collaborative ventures (including federations, super-practices and provider companies) across footprints much larger than those envisaged for networks. How Primary Care Networks (PCNs) will be formed, and how these existing groups and collaborations will interact with networks is currently unclear. Moreover, little is known about how staff can be successfully employed to deliver services across a group of practices, and the effects of the new network-level investment on existing and future practice-level investments will require careful study. Relevant issues will include: performance management of staff employed across practices; human resources management; training and development; and professional and peer support for staff working across multiple practice teams. Finally, whilst it is claimed that these changes will support the sustainability of primary care services, we do not fully understand how collaborative working will affect job satisfaction or recruitment and retention of practice staff, including GPs and nurses, or how patients will respond to these changes.

PCN composition explicitly includes providers of local community services as well as GP Practices (NHS 2019b). There has thus far, however, been an almost exclusive focus in policy and guidance on the role of GP Practices in PCNs, including contractual mechanisms and incentives for involvement. Minimal attention has been paid to the nature and implications of involvement and engagement with non-GP organisations despite the fact that PCN success will be to a large extent dependent on an effective working relationship between all relevant local organisations within a PCN footprint. A change to the standard Community Services contract to facilitate closer working with PCNs is promised as part of the standard NHS contract for 2021/22, but a draft has not yet been published.

This three-year project (2019-2022) complements a number of past and ongoing projects: recent study of the outcomes of primary care provision ‘at scale’; a new short, responsive PRUComm project that will soon commence looking at GP practice responses to new QOF incentives; an ongoing NIHR funded research exploring the employment of new types of worker in primary care; and a mixed-methods project exploring PCNs consequences for continuity of care. It explores the architecture being put in place to commission and contract for primary care services at neighbourhood level, and provision in the context of these arrangements.

During this first year of the project, practices formed themselves into Networks and signed up to the initial Directed Enhanced Service (DES) PCN contract. This triggered a ‘participation’ payment of £1.50 per patient (funded from CCG existing allocations for primary care) and Networks appointed a Clinical Director, whose salary was funded to the tune of 0.25 FTE per 50,000 population. No specific funding was provided for managerial or other support. In December 2019, draft ‘service specifications’ were issued (NHS England and NHS Improvement 2019). These were additional services to be provided by practices and networks. These were not well-received by GPs (Serle 2020), who felt that the workload they represented was excessive, and further negotiations between NHSE and the BMA resulted in an updated contract offer (BMA and NHS England 2020). This provided additional funding for care provided in care homes, adjusted some of the service specifications and increased reimbursement for additional roles from 70% to 100%. The potential additional incentive funding (known as the Investment and Impact Fund) was also described, amounting to an extra £40.5 million in the first year, rising to £300 million over subsequent years. The Covid-19 pandemic caused some delay, with service specification requirements delayed, and the initial tranche of incentive monies made available without the need to meet targets. In May 2020, practices were required to sign up again to the Network DES, and 98% of practices did so.

1.1: Acronyms

BMA	British Medical Association
CCG	Clinical Commissioning Group
CD	Clinical Director
ICS	Integrated Care System
LMC	Local Medical Committee
NHSE	NHS England
PCN	Primary Care Network
STP	Sustainability and Transformation Partnership
WP	Work package
GMS	General medical Services contract – standard contract by which GPs provide services to the NHS
DES	Directed enhanced service contract– add on to the General Medical Services Contract

Chapter 2: Project plan

2.1: Aims and objectives

The aim of this study is to understand the processes by which primary care services are commissioned, contracted for and delivered at neighbourhood level via primary care networks, and to explore the impact and outcomes of those processes on care provision.

The objectives are:

- To understand the objectives underlying the current changes to primary care commissioning and contracting, and to explore the intended outcomes
- To explore the formation and operation of networks as part of an evolving policy landscape, including their impact on constituent practices, their accommodation alongside existing collaborative ventures, and their implications for other care providers
- To investigate the implementation of the contractual changes at local level, including mechanisms for support, monitoring, payment and contract management and to understand the factors affecting this
- To explore the mechanisms by which practices are working together across geographical neighbourhoods, including approaches to staff payment, recruitment and management, and the operation of network-level incentives
- To understand how networks of practices are engaging with other local service planning and provision at 'neighbourhood' level (including community and voluntary sector partners), 'place' level (typically borough or council scale and involving local government), and 'system level' (i.e. Integrated Care Systems (ICS), Sustainability and Transformation Partnerships (STP))
- To identify outcomes associated with the new arrangements, including staff and patient satisfaction, impacts on quality of care and effects on integration with other services

2.2: Research questions

1. Understanding the new system

- a. What are the objectives underlying current changes to primary care commissioning and contracting?
- b. What beneficial outcomes are expected, by whom, and by what mechanisms?
- c. How have collaborative networks been established?
- d. What commissioning and contracting mechanisms are CCGs and NHS England using to support neighbourhood collaborative working?

2. The operation of network collaborative working

- a. How are GP practices working together and with other community providers, across which domains?
- b. What factors have supported and enabled the development of network working?
- c. What issues have arisen in developing networks?

- d. How are networks working with other organisations at ‘neighbourhood’, ‘place’, and ‘system’ levels?
- e. How have networks attempted to incorporate patient views into decision making about how networks are being organised?

3. The outcomes of network collaborative working

- a. How have patterns of staff employment in primary care changed as a result of network collaborative working?
- b. Are there any changes in: GP and other staff recruitment, retention and satisfaction; patient satisfaction; internal practice organisation and management; and quality of care associated with network collaborative working?
- c. How do the new arrangements affect inequalities in quality and outcomes within and between networks?
- d. How has network collaborative working contributed to integrated working within neighbourhoods and/or at other scales within ICSs systems?
- e. What, if any, are the unintended negative outcomes of network collaborative working? How can these be avoided?

*4. Covid-19 and network collaborative working**

- a. What was the role of PCNs in the responses to Covid-19 in local areas?
- b. What factors affected the extent and nature of this role, and what does this tell us about PCNs more generally?
- c. How did the covid-19 emergency influence the development and operation of, and outcomes associated with, PCNs?

*This fourth research question was added to the project in April 2020 as a result of the Covid-19 pandemic and the general practice response to it.

2.3: Theoretical framework

Our initial engagement with theory of potential utility focused on meta-organisation theory (Ahrne and Brunsson 2008). We have since devoted attention to organisational network theory as a means of characterising PCNs and situating them within a broader typology to facilitate comparison and analysis (Ostrom 1990; Wenger 2000; Thompson 2003; Ferlie et al. 2010). This process of engagement with theory is ongoing, iterative, and informed by data collection. The project is underpinned by principles of realist evaluation, which is a theory-drive evaluation approach involving the delineation of contexts, mechanisms, and outcomes within a social or policy programme of interest (Pawson and Tilley 1997).

2.4: Project design

The project comprises four work packages (WP):

- WP1: In-depth exploration of the objectives and intentions underlying current policy changes
 - Addressing: Research question (RQ)1 (a-d)
- WP2: Overview of network arrangements through surveys and interviews
 - Addressing: RQ1 (b-d); RQ2 (a-e); RQ4 (a-c)

- WP3: Understanding local network arrangements through case studies
 - Addressing: RQ1 (b-d); RQ2 (a-e); RQ4 (a-c)
- WP4: Quantitative exploration of network development and outcomes
 - WP4a: Network characteristics, variation, and existing GP ventures
 - Addressing: RQ1 (c); RQ2 (a-d)
 - WP4: Impacts on inputs, activity, quality and outcomes
 - Addressing: RQ3 (a-d); RQ4 (c)

2.5: Progress to date

WP1 is complete. In WP2, the first of the two round telephone survey with CCG PCN leads has been completed. A follow up telephone survey, which will now include questions about local response and consequences relating to COVID-19 (RQ4), will take place in Autumn 2020. In WP4a, we have made significant progress in our quantitative exploration of existing GP ventures, PCN characteristics and variability, and administrative boundaries. Due to COVID-19, the recruitment of WP3 case study sites has been delayed while GP practices, PCNs, and CCGs make adjustments to working arrangements. Prospective sites have been identified, informed by WP4a analysis, and we intend to approach them by July 2020, further developments allowing. WP4a will continue into year two and the findings updated as the PCN landscape evolves further.

We have established an advisory group comprising clinicians and others working in, or with experience of working in, a variety of NHS organisations, academics, policy stakeholders, government partners, and an expert patient. We convened our advisory group at the University of Manchester on 19th September 2019, and have sought and received approval from the group for the minor changes made to the project protocol in the context of COVID-19.

Chapter 3: Policy programme theories (RQ 1a and b)

In this section we report findings from WP1 addressing Research Questions 1a and b. *These findings constitute the main body of a journal article accepted for publication in the British Medical Journal Open on 29th May 2020.*

We sought participation from a range of relevant stakeholder organisations including NHS England and NHS Improvement, Department of Health and Social Care, and GP representative organisations. Sixteen semi-structured interviews were conducted between July 2019 and October 2019 by phone or face-to-face at interviewees' places of work. Interviews lasted between 30 and 60 minutes. There was flexibility to explore interviewees' particular knowledge relating to their position or experience. JH or KC conducted each interview. These were audio recorded, transcribed, and analysed using qualitative analysis software (NVivo 12) and a thematic matrix.

We asked interviewees to explain what they thought the national policy objectives underlying PCNs were, and to describe potential or intended mechanisms. Interviewees were thus presenting their interpretations of policy objectives, not their personal beliefs about what might actually happen. We recognise that national policy makers and stakeholders may have particular perspectives about the state and needs of general practice that differ from those of others working in different parts of the system in different capacities. Our intention is not to adjudicate between these perspectives, but to present the perspectives of those responsible for developing and implementing the rules and funding mechanisms which govern PCN operation.

We identified three main groups of objectives: use inter-GP practice collaboration to support a primary care sector which is struggling; align primary care more closely with other community services, improving integration and service delivery; and provide a collective 'voice' for primary care in the wider system. We explore and illustrate each of these in turn. Interview extracts are denoted by a unique participant ID code in square brackets (e.g. [N710cg]). We then consider the framing of policy objectives in the draft service specifications (NHS England and NHS Improvement 2019), published December 2019, and note a shift in this in the revised specifications in the updated GP contract (BMA and NHS England 2020).

3.1: Theme 1: Supporting general practice

Within this theme, PCNs represent a vehicle for supporting general practice to reduce some of the pressures it currently faces in terms of unmanageable workloads and related challenges recruiting and retaining sufficient GPs and nurses. The key mechanism for realising this objective is the new staff that PCNs will recruit through the Additional Roles Reimbursement Scheme (ARRS). Once in place, these staff are expected to reduce the workload burden on GPs, increasing work satisfaction and subsequently improving GP recruitment and retention rates. The consequence of this is to 'rescue' general practice from the pressures it faces and increase its resilience.

Resilience is also highlighted as an overarching benefit of collaborative working 'at scale.' This involves protection against negative consequences of shocks (both endogenous and exogenous) by virtue of operating as part of a larger inter-organisational entity. For example, one interviewee stated: "...networks provide an opportunity for greater resilience, so if a partner breaks their leg, the practice doesn't fall over" [N710cg]. In addition to protection for individual organisations, network membership was also expected to create other 'synergistic' benefits, such as new opportunities or increased efficiency, as a consequence of operating at a larger size. Examples offered to illustrate this included the ability to utilise clinical pharmacists across a collective footprint of networked practices when it would make little practical sense for any of those individual practices to employ a pharmacist for their patients alone, or the sharing of back office functions across a larger footprint.

It is the DES and associated financial incentives for GP practices that create the conditions for widespread PCN involvement. Respondents argued this collaboration would involve sharing of learning, data, and risk between practices, which would lead to improved inter-practice communication and the building of greater trust. An associated outcome was a reduction in intra-PCN variation as optimal approaches are identified and adopted by networked GP practices. This will result in improved patient experience as health care services become more accessible to patients and better tailored to local patient need. There were also expectations that reductions in inequalities locally could be mirrored nationally once the service specifications were introduced and best practices became established nationwide.

3.2: Theme 2: Place-based inter-organisational collaboration

The theme above is concerned with inter-GP practice collaboration, this theme is defined by an emphasis on inter-organisational collaborations between GP practices and other organisations and services in localities where PCNs are situated. One anticipated outcome is that more integrated and 'joined up' care will be delivered to patients in community settings. GP practices would forge closer connections to a range of local community resources and services, not just those directly health related, and more effectively and consistently direct patients towards them. Consequently, health care utilisation in general, and secondary care demand (including emergency admissions) in particular, would be reduced.

"...aim is to bring together different providers in the primary care setting within networks, so within general practices, but also other providers and the voluntary sector and the community itself, to design and deliver services around specific needs of the community so to work in a networked way and try to achieve all the benefits that that would bring." [N800zf]

Interviewees recognised that it would be necessary to incentivise (non-GP) providers, such as community service providers, in order to facilitate their involvement in PCN activities towards fulfilling the aspirations of the policy, and this is planned through changes to, for example, the standard community services contract and pharmacy contract.

Some interviewees also suggested that PCNs were concerned with the development of an enhanced population health management approach whereby a range of health and other data relevant to local populations would be used to inform population segmentation, risk management assessments of particular groups, and the creation of multidisciplinary teams. This would deliver a new depth of understanding about local demography and health care related need.

3.3: Theme 3: Providing a 'voice' for primary care

This theme relates to PCNs' interaction with organisational entities in the broader system within which they are nested, and thus relates to both horizontal and vertical interactions rather than horizontal only. The Long Term Plan conceptualised the English NHS as a series of spatial tiers – neighbourhood, place, system – with PCNs operating at the neighbourhood level; CCGs, local councils, and hospitals at the place level; and ICSs/STPs at the system level (although there is an explicit expectation that CCGs will become larger and occupy the system level, too). Interviewees framed PCNs as foundational building blocks for this spatial model, integral to supporting the levels above in their operation, or as an animating force that would bring life to arrangements. More specifically, PCN CD involvement at ICS/STP board level was highlighted as providing a means for PCNs to shape the development of the system of which they are a part and influence provider organisations at 'higher' levels. In doing so, CDs would provide a voice for primary care at system level and represent the interests of general practice and their PCN. This is made practically more feasible by the 'at scale' approach to general practice organisation associated with PCNs: "Having a

stronger voice perhaps for general practice around those particular tables that hasn't always been possible or practical to do with practices working individually" [n210x8].

3.4: Discussion and consideration of draft service specifications

It is important to note that interviewees did not consider the objectives and mechanisms associated with each theme to necessarily be discrete or mutually exclusive. The majority primarily emphasised theme 1 'Supporting general practice', theme 2 'Place-based inter-organisational collaboration' to a lesser degree, and theme 3 'Providing a 'voice' for primary care' to a lesser degree still. One interviewee emphasised themes 1 and 3 largely equally but not theme 2. Four of the 16 interviewees gave similar weighting to the importance of all three themes. Interviewees from a background close to general practice were more likely to emphasise theme 1. Themes were also, in some cases, considered to form a temporal sequence. Some interviewees talked about 'Supporting general practice' being the necessary first step before 'Place-based inter-organisational collaboration' could be more fully realised. However, others suggested it was only by GP practices working more closely with community service providers and third sector organisations that conditions in primary care would change to allow the workforce crisis to be addressed. Overall, whilst we have grouped the policy objectives into three overarching themes, it is clear that each was very broad, encompassing a significant number of potential objectives, mechanisms and expected outcomes. Our interviewees differed in how they envisaged the temporal sequencing of the desired objectives, and in the emphasis they placed on the different groups. Figure 1 below provides an impression of the distribution of relative emphasis that interviewees placed on each theme.

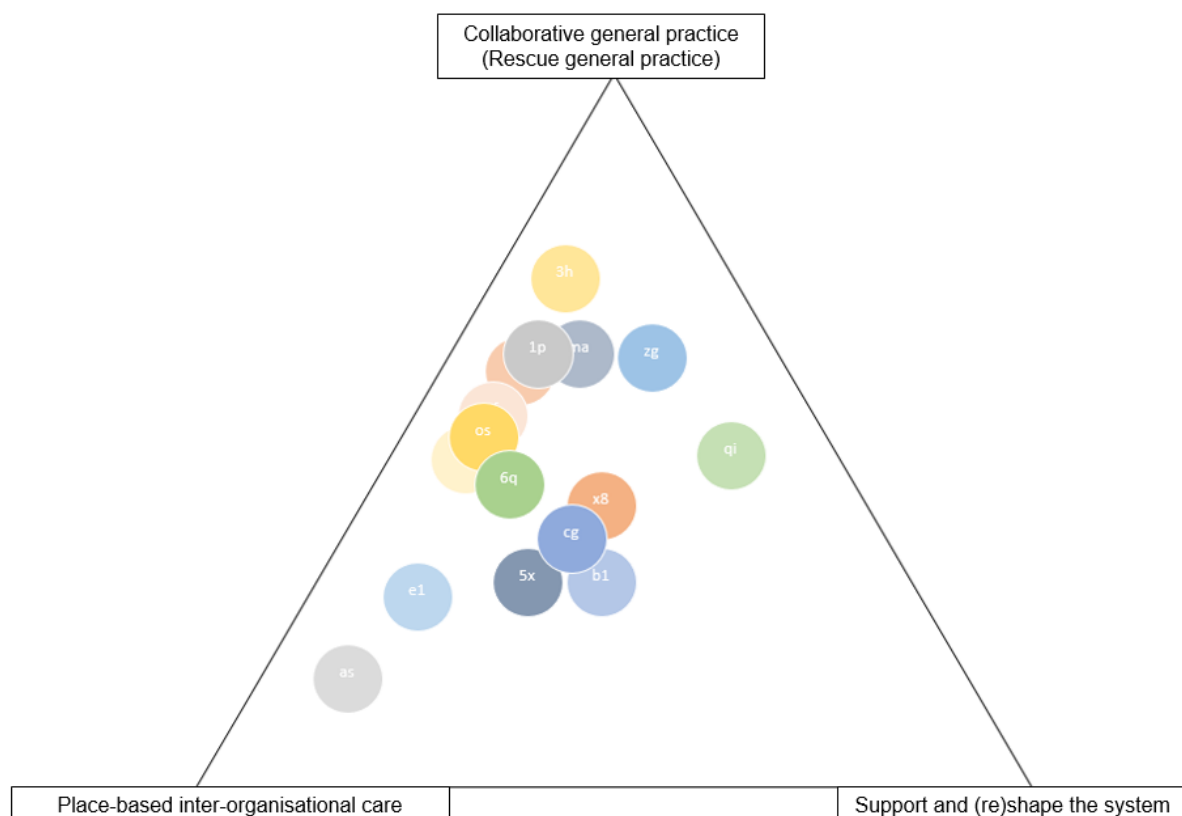


Figure 3.1: The relative emphasis that each interviewee placed on each theme relating to PCN objectives.

The draft service specifications were published on December 23rd 2019 (NHS England and NHS Improvement 2019). Whilst the introduction in the document references reducing GP workload

(p.4), the focus within the specifications is upon the delivery of additional services by PCNs. Two of the five services (Structured Medication Reviews..., and Enhanced Care in Care Homes) were intended to be fully implemented from April 2020, with three more – Anticipatory Care; Personalised Care; Supporting Early Cancer Diagnosis - introduced from April 2020 in a phased manner over successive years until 2023/24 in order to avoid “...overburdening [PCNs] at an early stage with unrealistic expectations for new service delivery” (NHS England and NHS Improvement 2019, p.4).

The specification document offers a clear programme theory for the policy:

“Though [sic] a combination of the additional workforce capacity within primary care, and the redesign of community services provision to link with and support PCNs, we expect the Network Contract DES both to reduce workload pressures on GPs and support improved primary care services to patients”(NHS England and NHS Improvement 2019, p.4).

It is also suggested that the additional workforce recruited will be sufficient to cover all work associated with delivering the five service specifications, whilst simultaneously providing spare capacity to take up some work currently undertaken by GPs. Thus, it is claimed, the workload burden on practices will reduce, although no evidence is provided to support this.

Structured medication reviews are to be delivered by individual practices, supported by clinical pharmacists. However, to perform these checks pharmacists will need prescribing qualifications, and not all pharmacists being recruited have this extra training. This work is therefore likely to devolve to GPs and any nurses with prescribing qualifications. Enhanced care in care homes will be delivered in collaboration with community service providers, as will anticipatory care, both of which require the establishment of network-level multidisciplinary teams. The personalised care service specification references better linkage with voluntary community groups, alongside the provision of personal health budgets. It is suggested this will enhance population health and reduce secondary care service use. Finally, the supporting earlier cancer diagnosis specification references greater collaboration between GPs and other service providers such as cancer alliances, secondary care and public health teams. The document explicitly references the intention that delivering the service specifications will lead to greater co-operation between GPs and community services, and suggests that this will be enhanced by forthcoming changes to the standard community services contract.

Taking the draft service specifications as a whole, the intention that PCNs will support the greater integration between primary care and community and other services comes through as the strongest underlying policy objective. References to practice workload are present, but only in so far as to make the argument that delivering these service specifications will have a beneficial effect on that workload, thereby supporting general practice. Little concrete evidence is provided to support these arguments, beyond some general statements of mechanisms by which the services are expected to improve patients’ health and therefore reduce demand.

The draft service specifications drew considerable criticism from the GP profession and substantial subsequent changes were made during ongoing negotiations between the BMA and NHS England, including significantly increased funding, reduced requirements associated with the service specifications and increased flexibility in the ARRS (BMA and NHS England 2020). The document setting out the revised deal also offers a shift in tone towards our first theme, with a greater emphasis upon reducing workload for GPs.

Chapter 4: The commissioning and contracting arrangements for Primary Care Networks (RQ 1a-d)

4.1: Methods

In answering RQs1a-d we have undertaken a narrative analysis and synthesis of available guidance and policy documents as they have been published, alongside relevant commentary articles from the grey and academic literatures. The objective of this analysis has been to understand in detail the underpinning contractual and other mechanisms in place to support PCN establishment and ongoing development. This section represents a synthesis of these documents.

4.2: Contracts

The mechanism to bring about PCN development which has been chosen is a contractual one. The precise form of the contract is an 'add on' to the GMS/PMS/APMS contract. It is a Directed Enhanced Service (DES), which means that it is a service which the commissioner (in most cases CCGs, acting under delegated authority from the statutory commissioner of primary care services, NHSE) must ensure is available for all patients living in their area. GP practices do not have to sign up to a network, but even if they don't, their patients will be covered by another network. This provides a clear incentive for practices to sign up, and means that, whilst technically 'voluntary', in practice PCN membership is likely to be 100%. A DES service specification has been drawn up, which requires practices in a network to sign a network collaboration agreement. PCNs are not organisations, and so are required to nominate a single practice to receive the payments due according to the DES.

Payments associated with the DES are set out in Table 4.1 below (BMA and NHS England 2020). These include: a payment for engaging (paid direct to practices from CCGs, funded out of their existing allocated funds), alongside additional payments (such as those for providing extended hours services and the employment of new staff). Much of the additional money initially associated with the contract (over and above the 'engagement' payment) is tied to the employment of staff to work across the PCN – including a social prescriber and a clinical pharmacist – as well as the funds to employ a Clinical Director (currently paid at 0.25 WTE per 50,000 population). Notably, those networks/practices who currently have staff such as clinical pharmacists in place will receive no payment unless they employ additional staff. The DES service specification does not specify how new staff will be employed, nor does it specify any governance requirements. A guidance document issued by the BMA sets out potential models of payment and employment. These include: a 'lead practice' model, in which staff are employed by one practice to work across the Network; employment by an NHS third party such as a Community Trust; or employment by another body such as a GP Federation (BMA 2020). An 'Investment and Impact Fund' will offer incentive payments, payable to networks for meeting performance requirements (see Table 4.2) (BMA and NHS England, 2020). This fund will operate in a similar way to the GMS contract Quality and Outcomes Framework, with points awarded for meeting targets, subject to upper and lower thresholds. Performance, however, is determined at network rather than individual practice level. There is adjustment for prevalence.

Source	Amount £ 20/21	Amount £ 23/4
Additional roles	430 million total (=5 staff per ave PCN, allocation per head)	1412 million
Participation	109k per PCN (£1.50/patient) (from CCG allocation)	?
Clinical Directors	0.25 WTE per 50,000 pop	ongoing
Investment/impact	40.5 million total	300 million
Care Home premium	£120 per bed per year	ongoing
Funding to community trusts	?	?
Uplift to GMS contract	?	?

Table 4.1: Funding associated with the introduction of Primary Care Networks (containing figures from the Update to the GP contract agreement 2020/21 - 2023/24 (BMA and NHS England 2020))

Indicator	Indicator value (£m)	Indicative value for average PCN	Upper Threshold	Lower Threshold
Percentage of patients aged 65+ who received a seasonal flu vaccination (1 September-31 March)	8	£6,400	77%	70%
Percentage of patients on the LD register who received an LD health check	6.25	£5,000	80%	49%
Number of patients referred to social prescribing per 1000	6.25	£5,000	8 referrals per 1000 population	4 referrals per 1000 population
Gastro-protective prescribing - Percentage of patients prescribed a non-steroidal anti-inflammatory drug without a gastro protective (age 65+)	6.25 ³⁰	£5,000	30%	43%
Gastro-protective prescribing - Percentage of patients prescribed an oral anticoagulant and anti-platelet without a gastro-protective (age 18+)			25%	40%
Gastro-protective prescribing - Percentage of patients prescribed aspirin and another anti-platelet without a gastro-protective (age 18+)			25%	42%
Metered Dose Inhaler prescriptions as a percentage of all inhaler prescriptions (excluding salbutamol)	6.25	£5,000	45%	53%
Spend per patient on 20 of the 25 medicines on the national list of items that should not routinely be prescribed in primary care	7.5	£6,000	PCN spending goal	60% above PCN spending goal

Table 4.2: 2020/2021 Investment and Impact Fund indicators and thresholds (reproduced from BMA and NHS England (2020))

The role of the commissioner (currently mostly CCGs acting under delegated authority) is important in monitoring that the PCNs are meeting their obligations. They were responsible for registering PCNs, and were required to ensure that networks meet the requirements set out, including: complete geographical coverage; size 30-50,000 (although this could be flexed to fit local circumstances); and with boundaries which ‘make sense’ to other service providers in the area. CCGs will also be responsible for agreeing with PCNs how money earned under the Investment and Impact Fund will be spent (on workforce or services only), and for monitoring performance.

Practices agreeing to join a PCN must sign an inter-practice agreement. A model Network Agreement was issued by NHSE and the BMA (BMA and NHS England 2019). This contains 106 provisions around such things as mechanisms for joining and leaving the network, the need to manage conflicts of interest and the need to have meetings. However, it contains no details as to the content of these things. For example, it says that the Network ‘will develop arrangements to manage conflicts of interest’ and ‘core network members will attend meetings’. The associated details were to be set out in associated schedules 1-7. These are to be individually agreed by each network, and no official guidance on these was offered by NHSE or the BMA. Their purpose is as follows:

- Schedule 1 refers to the operation of the network and includes things such as decision making procedures, meetings, voting rights etc.
- Schedule 2 is for setting out ‘additional items’, such as approaches to managing FOI requests etc.
- Schedule 3 sets out the activities associated with the network, specifically what practices are supposed to do, including issues relating to internal performance management.
- Schedule 4 sets out financial arrangements, including how expenses are split, indemnity requirements, insurance etc.
- Schedule 5 sets out how staff are to be employed across the network
- Schedule 6 sets out what happens in the case of insolvency
- Schedule 7 sets out how the network will interact with organisations outside the PCN.

Notably there are no requirements for transparency, meeting in public etc, and no minimal standards for governance procedures. Various organisations offered advice to PCN, including LMCs (e.g. London-wide LMCs have provided some model schedules). The General Practice Defence Fund, which exists to support LMCs, has also commissioned a law firm to produce some model schedules. Whilst these two different models contain some similar clauses, they differ considerably in format and content. Review of these arrangements did not form part of the Network registration process, and some concerns have been raised in the HSJ about how far they are fit for purpose (Serle 2019)

4.3: Geography of PCN development

In national policy, PCNs are discussed as representing the lowest level of a layered service structure, known as Neighbourhoods.

Levels	Functions
Neighbourhood (c.30,000 to 50,000 people)	<ul style="list-style-type: none"> • Integrated multi-disciplinary teams • Strengthened primary care through primary care networks – working across practices and health and social care • Proactive role in population health and prevention • Services (e.g. social prescribing) drawing on resource across community, voluntary and independent sector, as well as other public services (e.g. housing teams)
Place (c.250,000 to 500,000 people)	<ul style="list-style-type: none"> • Typically, council/borough level • Integration of hospital, council and primary care teams / services • Develop new provider models for 'anticipatory' care • Models for out-of-hospital care around specialties and for hospital discharge and admission avoidance
System (c.1 million to 3 million people)	<ul style="list-style-type: none"> • System strategy and planning • Develop governance and accountability arrangements across system • Implement strategic change • Manage performance and collective financial resources • Identify and share best practice across the system, • to reduce unwarranted variation in care and outcomes

Table 4.3: Overview of integrated care system and their priorities from the NHS Long-Term Plan (Reproduced from 'Designing integrated care systems (ICSs) in England' (NHS 2019a))

This schema carries with it an implicit expectation that the levels will nest within one another, and that the units will form a jigsaw, together covering the whole of England. This is echoed in the rhetoric associated with PCN policy and guidance, which refers to networks being geographically contiguous, talks about 'natural boundaries' and suggests that other community-based services – such as community nursing – will realign themselves around these neighbourhood footprints. The picture painted can be represented thus:

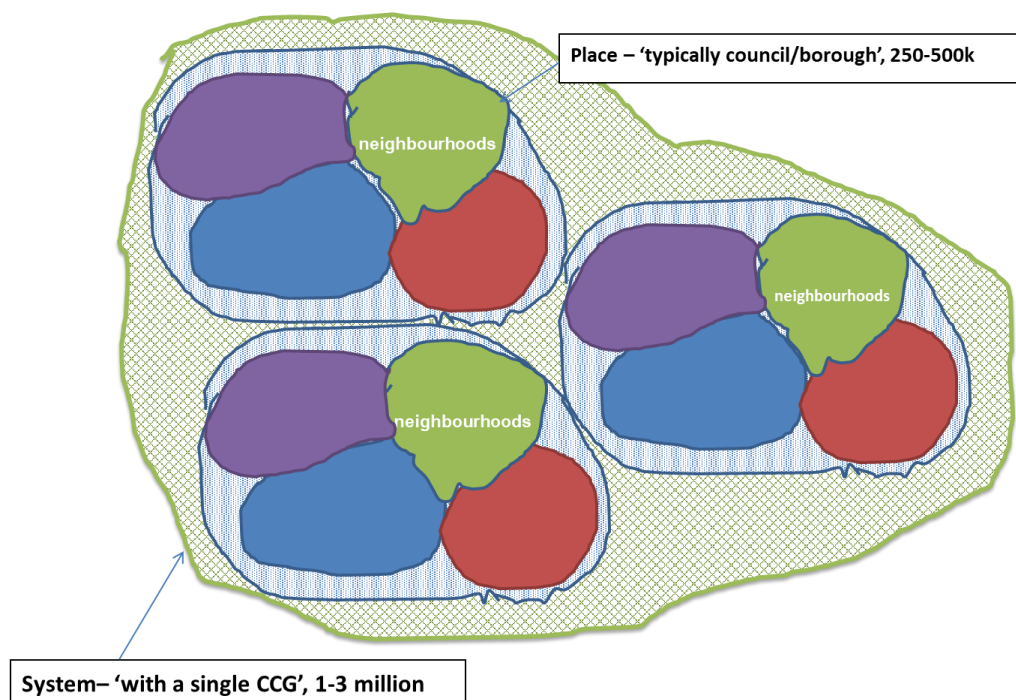


Figure 4.1: Schematic diagram of an idealised model of system, place and neighbourhood

However, in reality boundaries are much less clear cut and include significant overlap. The map below is an example from a CCG in the north of England, with each colour representing the geographical coverage of a single PCN:

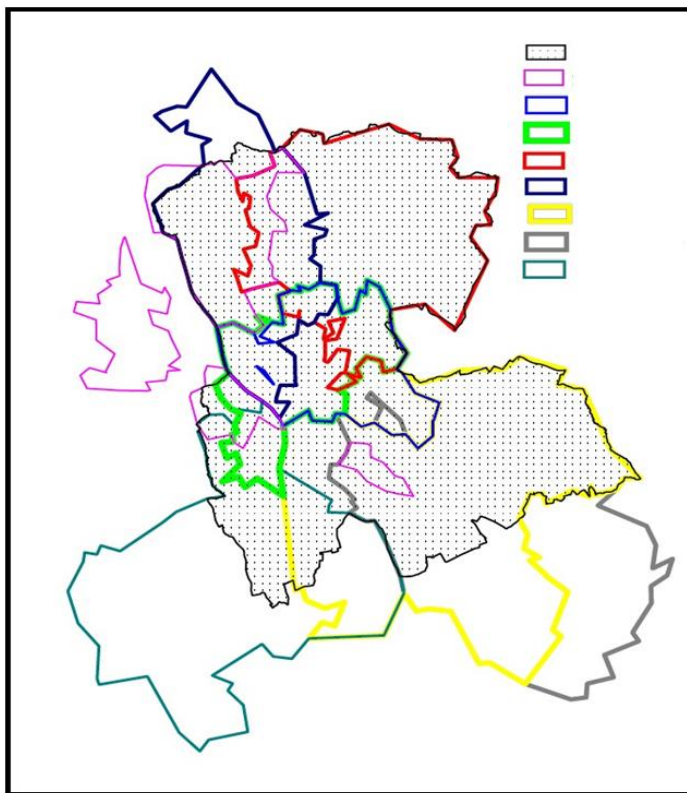


Figure 4.2: Actual map of PCN areas in a CCG in the North of England

Thus, the idealised vision of neighbourhoods straightforwardly nested within ‘places’ does not correspond with the reality on the ground, with PCN boundaries having significant overlap. This is not surprising, as ongoing policy over many years has encouraged GPs to move away from covering geographical ‘patches’, with arguments made in favour of allowing choice and encouraging patients to be allowed to register at their place of work instead of home. Practice populations therefore overlap, and as a result PCN boundaries do the same. Maps such as this demonstrate the challenges associated with the vision of PCNs as a vehicle for population health management. This is particularly the case with regard to community-based services. The additional service specifications which will be delivered by PCNs starting from 2020 include ‘anticipatory care’, which envisages proactive care delivered to patients with high needs by community-based teams. In order to do this it is suggested that: “... from July 2019 community providers are being asked to configure their teams on PCN footprints” (BMA and NHS England and NHS Improvement 2019, p.26).

The reality of PCN boundaries suggested by the map above suggests that this configuration may not be straightforward. Indeed, the map suggests that, in practice, it will be the CCG boundary which represents a definable population, with PCNs inevitably having to work at a supra-PCN level because of the significant overlaps between them. It remains unclear how this will work in practice. Anecdotal evidence suggests that in some areas GP Federations may act as the over-arching co-ordinating body, but this is in itself potentially problematic. Federations are very varied in makeup, structure and function (McDonald et al. 2020), and they are not public bodies. Their governance and accountability are therefore obscure.

Issues relating to the geographical footprints of PCNs are further discussed in section 6.3.

4.4: Ongoing oversight and support for PCNs

As discussed above, the PCN registration process has been managed by CCGs as the delegated commissioner for primary care services. Funds to support the development of PCNs are to be deployed at Regional level, with NHSE Regional teams providing support for PCNs across their geographical area. Areas which we have identified as involving considerable complexity and for which PCNs may need support include:

- Staff employment. The DES requires the appointment of staff across a network, but networks cannot employ anyone as they are not legal entities. This means that ‘workarounds’ are required, many of which carry with them legal and other risks. Understanding the implications of the model chosen is clearly vital, and will require high quality legal and HR advice.
- The establishment of appropriate internal managerial and governance mechanisms.
- The relationship between PCNs and between PCNs and any local Federations. Federations vary in both form and function, and it is important that there is oversight of the relationship between PCNs and federations, not least to ensure appropriate governance, accountability and decision-making processes
- Management of networks which do not cover geographical populations such as GP at Hand
- The relationship between PCNs and other local providers such as Community services and social care. It is intended that PCNs will work closely with their local community providers, but the potential geographical complexity associated with PCNs may make this difficult.
- The role of PCNs in ICSs and other regional fora. There will be very many PCNs in each ICS area. It will clearly be impossible for every PCN to be represented at this level, and it will therefore be important for PCNs to establish a mechanism to negotiate and agree such representation.

It is not yet clear how PCNs will be monitored and performance managed. A draft ‘maturity matrix’ for PCNs has been produced (see Table 4.4), but this lacks detail and has not yet been formally adopted. There is to be a PCN dashboard, but the content for this is not yet decided. Who will be responsible for monitoring PCNs against the dashboard is also not yet clear.

The ongoing oversight, support and monitoring of PCNs will form a key element of our PCN case studies (work package 3), which is now beginning at the start of the second year of the project (summer 2020).

The journey of development for primary care networks in a health system – maturity matrix

Our learning to date tells us that primary care networks will develop and mature at different rates. Laying the foundations for transformation is crucial before taking the steps towards a fully functioning primary care network. This journey might follow the maturity matrix below.



Foundation	Step 1	Step 2	Step 3
<p>Plan: Plan in place articulating clear vision and steps to getting there, including actions at network, place and system level.</p> <p>Engagement: GPs, local primary care leaders, patients' representatives, and other stakeholders believe in the vision and the plan to get there.</p> <p>Time: Primary care, in particular general practice, has the headroom to make change.</p> <p>Transformation resource: There are people available with the right skills to make change happen, and a clear financial commitment to primary care transformation. The network is taking the opportunities that GP network contract affords</p> <p>There is a clinical director is for the network.</p>	<p>Practices identify PCN partners and develop shared plan for realisation. There is joint planning underway to improve integration with community services as networks mature</p> <p>Analysis on variation in outcomes and resource use between practices is readily available and acted upon.</p> <p>Basic population segmentation is in place, with understanding of needs of key groups, their needs and their resource use</p> <p>Integrated teams which may not yet include social care are working in parts of the system. Plans are in place to develop MDT ways of working, including integrated rapid response community teams.</p> <p>Standardised end state models of care defined for all population groups, with clear gap analysis and workforce plan</p> <p>Steps taken to ensure operational efficiency of primary care delivery and support struggling practices.</p> <p>Primary care has a seat at the table for system strategic decision-making.</p> <p>PCNs are engaging directly with population groups, and with the wider community</p>	<p>Functioning interoperability within networks, including read/write access to records, sharing of some staff and estate.</p> <p>All primary care clinicians can access information to guide decision making, including risk stratification to identify patients for proactive interventions, IT-enabled access to shared protocols, and real-time information on patient interactions with the system.</p> <p>Early elements of new models of care in place for most population segments, with integrated teams throughout system, including social care, mental health, the voluntary sector and ready access to secondary care expertise. Routine peer review.</p> <p>Networks have sight of resource use and impact on system performance, and can pilot new incentive schemes.</p> <p>Primary care plays an active role in system tactical and operational decision-making, for example on UEC</p> <p>Networks are developing an extensive culture of authentic patient partnerships</p>	<p>Fully interoperable IT, workforce and estates across networks, with sharing between networks as needed.</p> <p>Systematic population health analysis allowing PCNs to understand in depth their populations' needs and design interventions to meet them, acting as early as possible to keep people well.</p> <p>Fully integrated teams throughout the system, comprising of the appropriate clinical and non-clinical skill mix. MDT working is high functioning and supported by technology. The MDT holds a single view of the patient. Care plans and coordination in place for all high risk patients.</p> <p>New models of care in place for all population segments, across system. Evaluation of impact of early-implementers used to guide roll out.</p> <p>PCNs take collective responsibility for available funding. Data is used in clinical interactions to make best use of resources.</p> <p>Primary care providers full decision making member of ICS leadership, working in tandem with other partners to allocate resources and deliver care.</p> <p>The PCN has built on existing community assets to connect with the whole community.</p>

Table 4.4: Primary Care Networks maturity matrix (Reproduced from: <https://qptaskforce.com/pcn-maturity-matrix/>)

Chapter 5: Emerging network arrangements (RQ 1c, d and 2c)

This section reports findings from the WP2 telephone survey of CCG PCN leads, which took place between August 2019 and December 2019. The survey was not designed to be a sample survey, the purpose of this was to gather intelligence about PCN development and, particularly, to understand how CCGs were supporting and enabling PCN development, the commissioning role of CCGs in relation to PCNs, and local objectives for PCNs related to the first year of the PCN DES.

5.1: Respondents and PCN characteristics

Region	CCG number
North West	8
North East & Yorkshire	10
South West	3
Midlands	4
London Region	1
South East	5
East of England	6
<i>Total</i>	<i>37</i>
<i>Total CCG areas represented due to impending CCG mergers</i>	<i>55</i>

Table 5.1: The number of telephone interviewee respondents per CCG by English region and the total number of CCG areas represented

5.2: PCN development

The timing of the survey provided an opportunity to explore and understand how PCNs were forming themselves into local collaborations. We wanted to understand how the national guidance had been interpreted locally. We asked CCGs how their local PCNs had formed collaborations, using the terminology that was utilised in the policy guidance e.g. flat practice model, lead provider model, GP Federation entity, super practice and non GP provider. The majority of CCGs reported that their PCNs were using a flat practice model, whereby GP practices were forming local collaborations, with each practice having an even standing within the collaboration. In areas where there was little experience of GP collaborations, the flat practice model was perceived to be the most sensible approach to forming PCNs. It allows GP practices to form their collaborations and build relationships and trust across the PCN before having to make decisions about which practice or model is the most appropriate to lead the PCN in time.

Flat practice, all practices have an equal vote. They [PCNs] debated whether the vote should be per practice or based on list size. The CCG advice was to keep it as simple as possible; you can change these things at any time. [ID 12]

Eleven CCGs said that the PCNs within their areas had chosen to form themselves using a mixture of the models outlined in the guidance; including GP Federation entities, super practices and existing legal collaborations. All of the models chosen, with the exception of the flat practice collaborative approach were based on existing programmes of work.

Mixed, pretty much all of those [models outlined in the guidance], we have some advanced super practices & legal collaborations that were set up already. [The PCNs] Built on their at scale working. [ID 31]

CCGs referred to three main influences in the formation of PCNs, these included historical working practices, relationships, geography and the voice of the Local Medical Committee (LMC). CCGs

commented that in areas where there is a strong local LMC voice, it was important to ensure that LMCs were advocating the policy to ensure that it successful implementation locally. Relationships were described as a key contributing factor, CCGs said that GPs cannot be forced to work with people; GPs relationships with each other, both good and bad, informed how practices chose to work together. The PCN policy itself shaped the importance of the geographical nature of the PCNs, CCGs knew that the PCNs had to be geographically contiguous; therefore, geographical characteristics of a CCG area and the distribution of practices within each CCG footprint were influential in shaping the formation of PCNs. Historical and pre-existing working arrangements were a particularly important influence on the formation of PCNs. Previous policy initiatives including, Practice Based Commissioning and New Care Model Vanguard in some areas shaped how practices were working together in PCNs.

In general PCNs were GP-led, with thirty CCGs reporting that all of the Clinical Directors in their area were GPs. Only seven CCGs areas informed us that other professionals (nurses and pharmacists) were Clinical Directors. Non GP Clinical Directors were existing leaders in the system and therefore were the best fit for the role.

Three PCNs are working collaboratively because of their population needs and similar demographics. The nurse was voted in and it is seen as a benefit to the PCN as they [local PCNs] can mix and share resources between the nurse & GPs [Clinical Directors]. The nurse has a reputation for being a leader in the system. [ID 15]

Many CCGs commented that the lack of variety in the professionals filling the Clinical Director role was a lost opportunity; CCGs suggested that other professions would have provided different leadership styles, strengthening PCNs. Locally for CCGs, the new Clinical Director posts caused a number of challenges, resulting in CCGs supporting the new appointed leaders. The scope of the PCN policy has meant that many new leaders have been introduced into the system, which means they require additional support and training. Although a challenge, CCGs were happy to see new leaders in the system, hoping that they would bring new ideas and energy.

[New leaders in the Clinical Director positions]...It is a huge strength for challenging the status quo but they need a huge amount of leadership support. [The CCG] Need to support them without letting them harm themselves. [ID 10]

Through our iterative analysis and continued interviews with CCG staff, we have developed three meta-themes; these illustrate the strengths and challenges of implementing the PCN policy locally. The three themes that will be discussed are: the importance of local specific arrangements; the role of the commissioner; and policy objectives and mechanisms.

5.3 The importance of local specific arrangements: collaboration, workforce, funding

CCGs described historical working practices as being influential in the formation of PCN groupings locally. Although PCNs are a new policy initiative, introduced in The NHS Long Term Plan (2019), general practice working at scale or collaboratively has been happening for many years e.g. GP Fundholding, Practice Based Commissioning, etc. Although health policy has historically encouraged these working practices, three CCGs said that the PCN policy had failed to consider these existing relationships. This oversight has led to a number of local challenges when implementing the PCN policy. For example, CCGs said that a number of local initiatives had to be re-evaluated to ensure that they complemented the DES. CCGs suggested that if they had been aware that the DES was being developed they would have commissioned local schemes differently; CCGs have had to spend time ensuring that local practices were not being double funded for work that was included in local commissioning arrangements that were agreed prior to the introduction of the DES.

The GP contract is a greed at a national level-it is hard for localities to understand the direction of travel. We had made decisions on our [local service standards] and the next month the DES came out and we may have made different decisions if we would have known what was coming. [ID 12]

A national one size fits all, contractual approach represented duplication for many CCGs. Thus, the policy was felt to be of benefit for CCG areas who had not been as proactive in developing such programmes of work in primary care, offering prescriptive guidance on how to achieve such goals.

Ten CCGs discussed the local complexities and challenges; the main issue was the existence of prevailing collaboration, some working beyond general practice, which affected PCN implementation. The first year of the DES wholly focuses on general practice, providing the additional monies to general practice through the GP contract. Local CCGs reported that this failed to account for existing programmes of work including wider system partners. There were concerns that good working relationships would potentially suffer, as additional money was for general practice alone. CCGs acknowledged that PCNs would need to meet the expectations of the central PCN policy, however, there were concerns that this would be potentially to the detriment of locally agreed arrangements. One CCG said that this was the first time in policy history that they have experienced being penalised for being ahead of the policy:

The PCN guidance was unhelpful as we had already got off the starting blocks in terms scaled up working with our community partnership model...Worst set of guidance yet, written by people who don't understand. It has missed the point; some places were already working on this. It is the first time areas have been penalised for being ahead of the game. [ID 19]

Five CCGs described the PCN as a distraction locally; their general practices had to focus on the policy, which meant that other system partners involved in local integration had experienced a pause in local primary care involvement. Thus, the PCN policy was perceived to have been a temporary interruption to wider system working.

Furthermore, areas that had already started to employ a range of different/new roles into the system found the ARRS scheme to be too prescriptive and unhelpful. Social prescribing link workers and clinical pharmacists were already in post in some areas, CCGs called for more flexibilities to appoint a variety of different roles including mental health practitioners, to address locally identified healthcare gaps.

Some of the guidance is prescriptive-it would be better if it was more guidance. Locally in the GP Provider organisations, they would like to appoint staff using a tiered structure rather than a flat model. No organisation puts in a flat structure, we do not need 10 CPs, we would like a senior CPs and technicians etc. [ID 35]

For PCNs to be eligible for the additional roles monies, PCNs and CCGs had to demonstrate that the new staff appointed were new and in addition to existing staff within primary care. In areas with existing social prescribing schemes that the PCNs were not eligible for additional funding without expanding the provision. One CCG reported that they had re-deployed existing social prescribing staff into other roles to ensure that the additional monies

5.4: The role of the commissioner

CCGs identified themselves as having two key roles related to the PCN policy. Firstly, to support their general practices to ensure that they implemented the policy and secondly, to protect their local PCNs from the expectations that were being placed on them, from NHSE and wider local system partners.

Although GP practices are being financially incentivised to join general practice, the financial entitlements for the first year of the DES did not provide monies for the management support of PCNs. The financial entitlements were for the Clinical Director position, additional roles staff and practice engagement. CCGs identified a gap in the funding for management support locally and provided the support to try and bridge the financial gap.

Twenty-six CCGs reported that their primary care team staff were working with PCNs in a number of different ways, including: the provision of workshops; supporting local conversations with system partners; and providing a forum for clinical directors to come together. In the short term, four CCGs had seconded staff into their local PCNs to address some experiential weakness in PCNs including financial and management experience. These arrangements were locally agreed between the CCG and PCNs; however, there were local concerns about the sustainability of working this way.

The expectations of PCNs were a real concern at CCG level; CCGs spoke of PCNs being described as the solution to many historical NHS problems.

PCNs seem to be the buzz, everyone wants a part of them. They are perceived to be the solution everything. They are not there, they need time to develop and get there. We could potentially turn them off because of the ask. [ID26]

[There is an] Over reliance on PCNs to deliver all the solutions to the system. Performance targets for the reduction of demands on A&E etc. this will switch people off. Why should we [PCNs] try and solve this when we couldn't before PCNs. Is this fair? [ID 31]

CCGs wanted PCNs to have the time and opportunity to establish themselves before expectations to deliver outcomes prevailed. At the time the telephone survey was conducted, PCNs and CCGs were awaiting the publication of the service specifications, outlining the expectations of PCNs against key programmes of work. Five CCGs said there were local concerns that if the demand within the service specifications were too high without adequate remuneration that GP practices would not sign up to the second year of the DES and that there would be some professional backlash.

PCNs are like buckaroo-people keep piling work on them, everyone wants a bit of them. We need a reality check or we will kill them before they start, they are just collaborations of practices. [ID 19]

We are putting a lot of emphasis on what they can do. This may be detrimental & short sighted. They are seen as the nirvana. [ID 30]

5.5: Policy objectives and mechanisms

The objectives of the policy are multifaceted, PCNs have been created to promote a more collaborative general practice, promote place based care and to support and reshape the system (Checkland et al. 2020). However, the contractual mechanism, an 'add-on' to the GP contract, has the potential to inhibit integration with other system partners. The contract seems to encourage a more inward general practice focus. Six CCGs described the DES as not being well-received locally: they had well established integrated programmes of work and the PCN policy only focussed on general practice.

The PCN policy also gives PCNs the responsibility of engaging with the wider system at ICS/STP level, providing a voice of local primary care. Ten CCGs suggested that it was their role to support the development of these relationships. There is no formal structure in place to engage PCNs with the system, and CCGs told us that they wanted to ensure that they could support local level discussions. CCGs are situated well within the system, as local commissioners, with well established relationships and contacts to help facilitate local conversations. However, at the time of the survey CCGs

commented that many of the PCNs were not engaging with the wider system, there was a lack of understanding at the GP practice level of why the wider system was relevant to them. Furthermore, a practical concern was how a collective voice for primary care could be captured across local PCNs and how that could be meaningfully heard at ICS/STP level.

5.5: Conclusion

The contractual nature of PCNs provides a number of complexities and challenges for local level implementation. Our telephone survey illustrated the importance of CCGs, in their ability to reconcile centralised top down contractual changes within existing local schemes of work. CCGs have played a substantial role in implementing the PCN policy. As commissioners of primary care services, they have had a role in: supporting the establishment of PCNs; mediating between practices and the LMC to ensure geographical coverage; providing managerial support and expertise to PCNs; reconciling the PCN contract requirements against existing programmes of work; and protecting PCNs from external expectations of what they can achieve. Future iterations of the PCN DES need to engage with CCGs to ensure that the policy meets the needs of local areas whilst complementing existing schemes of work.

The first year of the DES was general practice focussed, providing incentives into general practice so that PCNs could establish themselves and build local relationships. As we move onto subsequent years of the PCN DES, the real test of PCN relationships will be the delivery of the PCN service specifications and the ability of PCNs to collaborate with wider system partners.

Chapter 6: Primary Care Networks characteristics and variability (RQ 1c and 2c)

These findings are from analysis conducted in WP4a and accepted for publication in the *British Journal of General Practice* on the 19th May 2020.

We used information on the PCN that each GP practice in England was a core partner of obtained from the NHS Digital website (NHS Digital 2020b). We linked this information to data from NHS Digital on the size and age composition of the populations registered with each GP practice in January 2020 (NHS Digital 2020a).

There were 1,250 PCNs in January 2020 with significant variation in the size of the population covered.

In Figure 6.1, we illustrate the frequency histogram of the population size of each PCN. Approximately six out of ten (58%) PCNs were in the recommended population range of 30,000 to 50,000. The mean (median) size of a PCN is 48,000 (44,000) registered patients. About 7% of PCNs cover a list size population below 30,000, with 1% of the total covering less than 24,000 patients. About 35% of PCNs have a population above the recommended range, with 5% of the total having more than 80,000 registered patients.

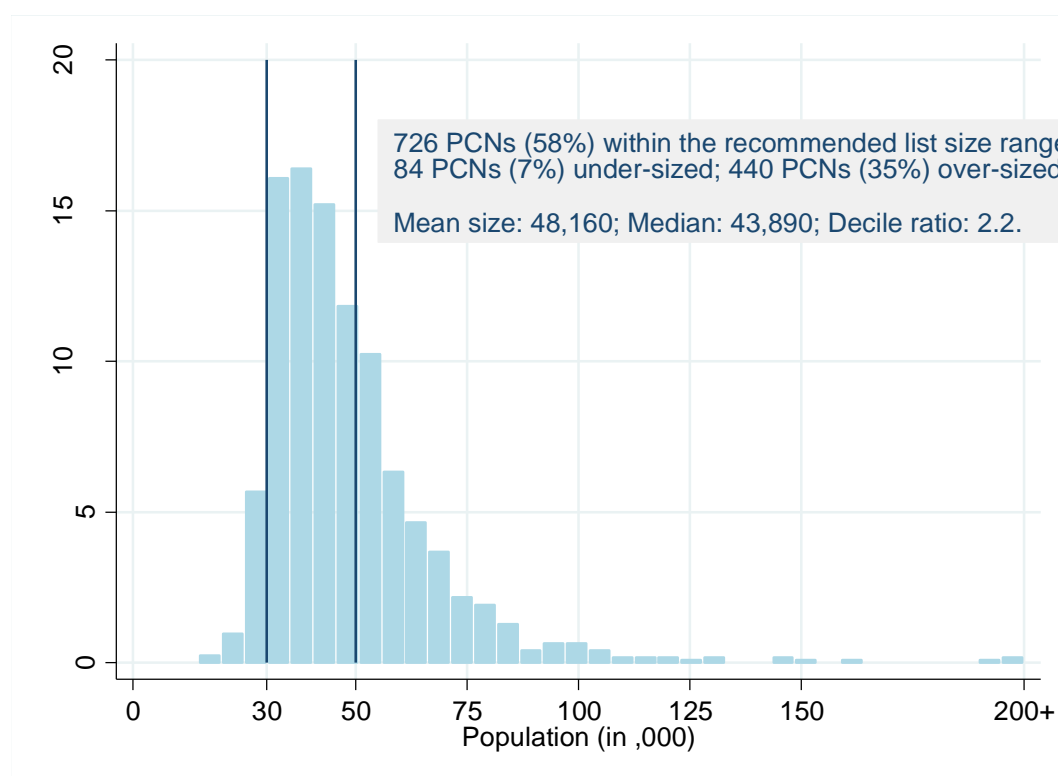


Figure 6.1: Variation in the size of the registered population across Primary Care Networks

Notes: The decile ratio is the ratio of the upper bound value of the ninth decile (i.e. the 10% of PCNs with highest values, P90 = 69,200 patients) to that of the first (P10 = 31,100 patients).

6.1: PCNs vary in the number of delivery units they will contain.

On average, a PCN is composed of five practices, with considerable variation around the mean (Figure 6.2). A tenth of PCNs are formed by three practices or less. Another tenth is composed by more than eight practices. At the extremes, thirty-four PCNs comprise a single practice whilst 77 PCNs contain more than ten practices.

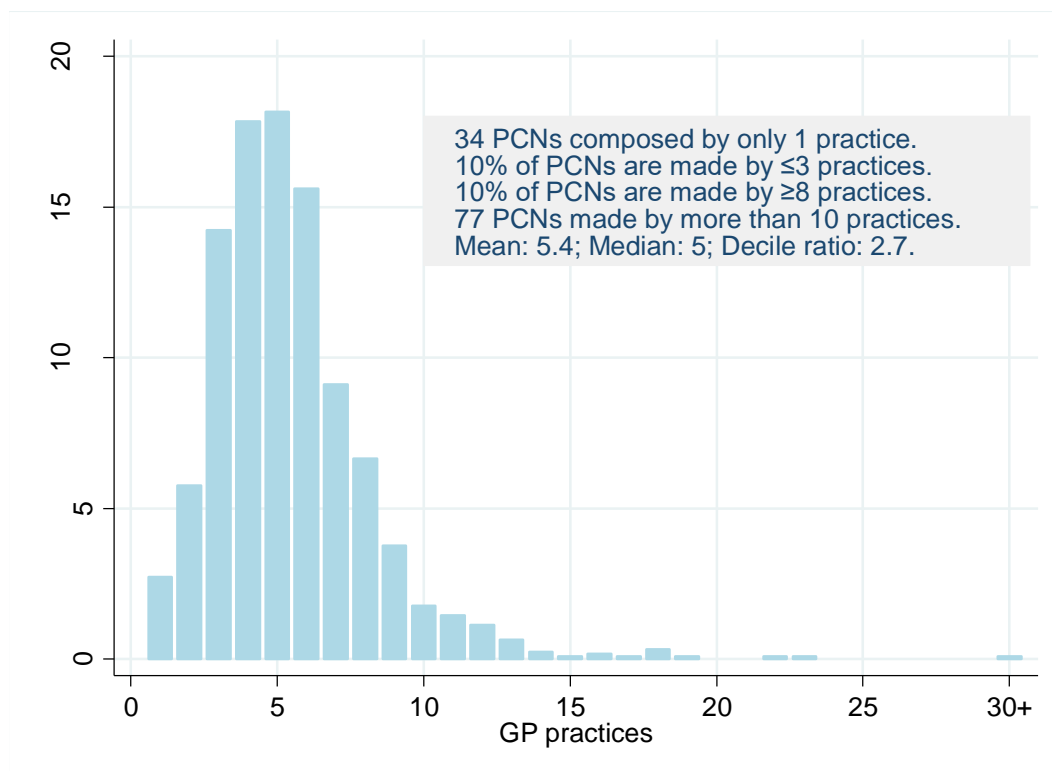


Figure 6.2: Variation in the number of GP practices across Primary Care Networks

Notes: The decile ratio is the ratio of the upper bound value of the ninth decile (i.e. the 10% of PCNs with highest values, P90 = 3 practices) to that of the first (P10 = 8 practices).

Figure 6.3 illustrates the joint variation in size of registered population and number of member practices across PCNs. Although the two measures of size are correlated, there is substantial variation in both dimensions. Even within the suggested range of population size of 30,000 to 50,000 there is much variation in the number of practices involved. Some peculiar PCN configurations, with high number of patients and relatively small number of practices, are located outside the range. For example, there are PCNs containing only two (super-)practices but covering nearly 100,000 people. Similarly, there are PCNs with a large number of patients covered by a multitude of GP practices.

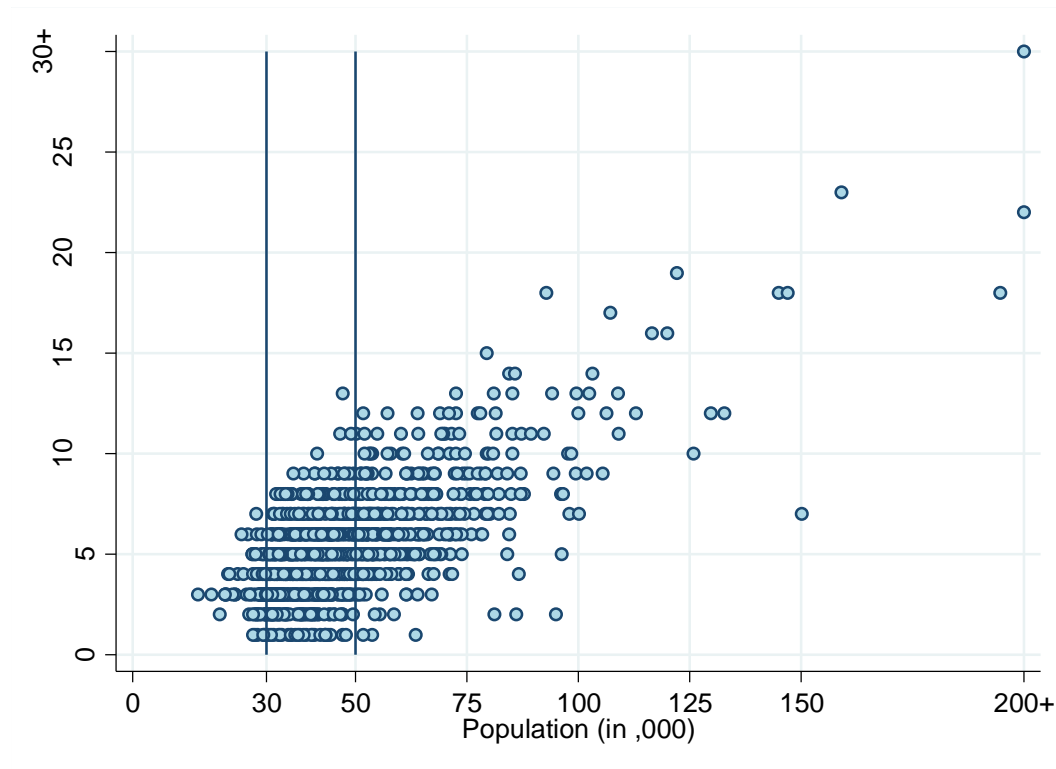


Figure 6.3: Scatterplot of number of GP practices and size of registered population across Primary Care Networks

We also documented substantial variation in the challenges that PCNs will face to meet the needs of their populations. We quantified the variation across PCNs by displaying the 10th, the median, and the 90th percentiles for summary measures of the demographic, economic and epidemiological pressures they face gathered from different data sources. We also computed the decile ratio as the ratio of the upper bound value of the ninth decile to that of the first.

Table 6.1 shows the variation across PCNs in some key characteristics of the population they cover. There is substantial variation in the challenges that PCNs will face to meet the needs of their populations. On average, PCNs have about 18% of patients aged 65 years and over. However, when ranking PCNs according to the proportion of older people they cover, we find a 2.8-fold difference between the 10th (9.2%) and the 90th percentile (25.6%).

Marked differences were found when PCNs are ranked according to their coverage of patients living in rural areas and associated area levels of deprivation. While about 10% of PCNs cover populations that are almost entirely located in urban or deprived areas, another 10% cover patients largely (more than 60%) living in urban areas. Similarly, there are some PCNs that cover populations mainly living in most deprived area (P90=55.6%) whereas others tend to have patients living in the most affluent areas.

PCNs differ also in term of the needs of the patients they cover. A tenth of PCNs face prevalence rates ranging between 70% (for diabetes) and almost three times (for COPD and CKD) lower than the highest tenth. The workload factor in the lowest tenth of PCNs is on average 20% higher than that observed in the highest tenth.

Population characteristic	Mean	10 th percentile	Median	90 th percentile	Decile Ratio ^a
Percentage aged 65 years and over	17.7	9.2	18	25.6	2.8
Percentage living in rural area	17.2	0	2.5	60.1	-
Percentage living in deprived area ^b	20.6	0	12.8	55.6	-
Percentage living in affluent area ^b	19.2	0.3	12.3	50.3	-
Percentage diagnosed with:					
Chronic Obstructive Pulmonary Disease ^c	1.9	1.0	1.9	2.9	2.9
Chronic Kidney Disease ^c	4.1	2.2	4.1	6.2	2.8
Diabetes ^c	7.0	5.1	7.0	8.8	1.7
Cardiovascular Disease ^c	1.1	0.8	1.1	1.5	1.8
Hypertension ^c	14.1	10.0	14.4	17.6	1.8
Stroke and Transient Ischemic Attack ^c	1.8	1.0	1.8	2.5	2.6
Serious Mental Illness ^c	1.0	0.7	0.9	1.3	2.0
Obesity ^c	8.1	5.0	8.0	11.0	2.2
Workload index ^d	1.01	0.9	1.01	1.11	1.2

Table 6.1: Variation in the demographic, socio-economic and epidemiological characteristics across Primary Care Networks

Notes: ^(a) The decile ratio is the ratio of the upper bound value of the ninth decile (i.e. the 10% of PCNs with highest values, P90) to that of the first (P10). ^(b) Population living in the 20% most deprived/affluent Lower-level Super Output Areas according to the 2019 Index of Multiple Deprivation. ^(c) Statistics computed over 1,249 PCNs using prevalence data from the 2017/18 Quality and Outcomes Framework. ^(d) Weighted registered population divided by unweighted registered population.

The stratification of these key characteristics by PCN size (Table 6.2) shows that under-sized PCNs tend to serve patients living in rural areas that are considerably older with higher prevalence rates of diagnosed conditions than patients served by PCNs that are above or within the recommended population range.

	PCN size under 30,000 population (84 PCNs)	PCN size 30,000- 50,000 population (726 PCNs)	PCN size over 50,000 population (440 PCNs)
Percentage aged 65 years and over	21.3	17.8	16.9
Percentage living in rural area	34.2	17.3	13.9
Percentage living in deprived area ^a	15.3	20.7	21.5
Percentage living in affluent area ^a	21.5	19.7	18.1
Percentage diagnosed with:			
Chronic Obstructive Pulmonary Disease ^b	2.1	2	1.9
Chronic Kidney Disease ^b	5	4.1	4
Diabetes ^b	7.3	7	7
Cardiovascular Disease ^b	1.2	1.1	1.1
Hypertension ^b	15.6	14.2	13.7
Stroke and Transient Ischemic Attack ^b	2.1	1.8	1.7
Serious Mental Illness ^b	0.9	1	1
Obesity ^b	8.2	8	8
Workload index ^c	0.98	1	1.01

Table 6.2: Average demographic, socio-economic and epidemiological characteristics across Primary Care Networks by PCN size

Notes: ^{a)} Population living in the 20% most deprived/affluent Lower-level Super Output Areas according to the 2019 Index of Multiple Deprivation. ^{b)} Statistics computed over 1,249 PCNs using prevalence data from the 2017/18 Quality and Outcomes Framework. ^{c)} Weighted registered population divided by unweighted registered population.

We documented substantial variation in the number and types of PCNs within CCGs. The analysis presented in Table 3 highlight important differences in the commissioner-provider relationships newly developed.

The median CCG deals with six PCNs (mean of 9.3), but with significant variation ranging from one PCN (3 CCGs) to more than 42 PCNs in one CCG. One tenth of CCGs face a number of PCNs that is four and a half times lower than another tenth (decile ratio=4.5). Over half of the PCNs in a CCG are within the list size range, with a three-fold difference from the lowest tenth (25%) to the highest tenth (80%). Only six of the 135 CCGs managed to get all PCNs in the targeted list size. Seven CCGs have all PCNs outside the expected list size range.

On average, around one quarter of a CCG's population is covered by its largest PCN, with large dispersion around this figure (decile ratio =4.2). Similarly, a quarter of practices in a CCG is associated with the largest PCN. However, a tenth of CCGs have around 11% of the total practices nested in the largest PCN whereas another tenth of CCGs have 40% of their practices affiliated with the largest PCN. Among the 132 CCGs with at least two PCNs, the largest PCN is approximately 2.4 times the smallest, but with considerable variation around this figure (decile ratio =2.4).

Statistic	Mean	10 th percentile	Median	90 th percentile	Decile Ratio ^a
Number of Primary Care Networks	6.5	3.0	5.0	12.0	4.0
Primary Care Networks in target population size range (%)	52.5	16.7	57.1	83.3	5.0
Percentage of CCG population in CCG's largest PCN	29.9	12.8	26.3	43.7	3.4
Percentage of CCG practices in CCG's largest PCN	31.3	14.9	27.7	50.0	3.4
Ratio of largest to smallest PCN population in the CCG ^b	2.2	1.4	2.0	3.2	2.2

Table 6.3: Variation in the Primary Care Network configurations across Clinical Commissioning Groups (new CCGs configuration as of April 2020)

Notes: For this analysis, we aggregated the data into the 135 CCGs, as of April 2020{NHS Digital, 2020 #603}. We count the number of Networks in each CCG and the percentage of Networks in the target population range. We also calculate the percentages of the CCG's population and practices within their largest PCN. We also computed the ratio of the largest PCN to the smallest for the 132 CCGs with at least two PCNs. ^a The decile ratio is the ratio of the upper bound value of the ninth decile (i.e. the 10% of PCNs with highest values, P90) to that of the first (P10). ^b Analysis restricted to 183 CCGs (over 191) with at least two PCNs.

6.2: Ongoing quantitative research on pre-existing GP practice ventures

PCNs are developing against a background of overlapping layers of previous collaborations, many of which were designed to do many of the same things as PCNs. We are working on assessing how existing “ventures” (e.g. federations, Primary Care Homes) overlap with the observed PCN configurations.

Data on GP practices engaged with Federations, super-practices and super-partnerships were gathered from the Forbes et al. (2019) study. Information collected in this study have documented that about 62% of GP practices are nested in one of the 386 observed active federations and provider companies, with around 166 super-practices/super-partnerships. Each Federation is made by about 25 GP practices but with considerable variation, from one GP (super-)practice to 60 GP practices.

In our preliminary analysis we found that some PCNs are made up entirely (or around) of GP super-practices/partnerships already working closely/loosely at scale. Specifically, 16 PCNs are formed with stand-alone GP super-practice/partnership; 65 PCNs contain one GP super-practice/partnership and at least one small partners; 24 PCNs are formed by two GP super-practices/partnerships (with/out small partners) whereas 61 PCNs contain three or more GP super-practices/partnerships (with/out small partners). We also found that more than four PCN core-member GP practices out of 10 are known working already together through the same GP federation (see Table 6.4).

	Number of GP practices	Percent
All	1,029	16%
50-99%	1,698	27%
30-50%	609	10%
Below 30%	459	7%
None in existing Federations	2,518	40%
Total	6,313	100

Table 6.4: PCN core-member GP practices known working already together through the same GP federation

Notes: Forbes et al. (2019) data linked with data of GP practice in England known to be a core partner in PCNs (January 2020) obtained from the NHS Digital website.

Primary Care Homes are often seen as the precursor to PCNs. We requested data on GP Practice membership into Primary Care Homes from the National Association of Primary Care (NAPC). NAPC data will enable us to assess the level of overlapping of PCNs with the 248 Primary Care Homes in England.

6.3: Ongoing quantitative research on PCN Footprints and the “complexity” of PCN configuration

As described above, PCNs do not have a neat geographical coverage with their footprints that may overlap considerably. This is because the population living in a given geographical patch might be served by several PCNs. This could generate difficulties for delivering surrounding other services. Community nurses, for example, are expected to form into teams clustered around PCNs. However, when PCN footprints overlap it is unclear whether two nurses’ teams should cover similar geographical patches or a single team will cover the local population potentially served by two or more PCNs. Looking a long way forward, it is possible to envisage possible “complexities” that might influence the observed performance around some of the community services-type metrics.

Our preliminary analysis (presented at the DHSC in a seminar in February 2020) has shown how PCN footprints overlap considerably. We performed an analysis by counting the number of PCNs serving the population living the Middle Super Output Areas (MSOAs) in England. There are about 6,791 MSOAs in England, with an average population of 8,853 residents. By accounting for the whole population, the average number of PCNs serving an average MSOA is of about 19 (standard deviation of 13.4). However, by excluding from the analysis PCNs that cover less than 1% of MSOA population, PCNs average number falls to 3.5 (standard deviation of 1.8). The number of PCNs involved in delivering services in the same MSOA is considerable higher in urban than rural area as Figure 6.4 is showing. We are currently investigating the extent to which PCN footprints overlap is associated with differences in the demographic and socio-economic context of MSOAs in England.

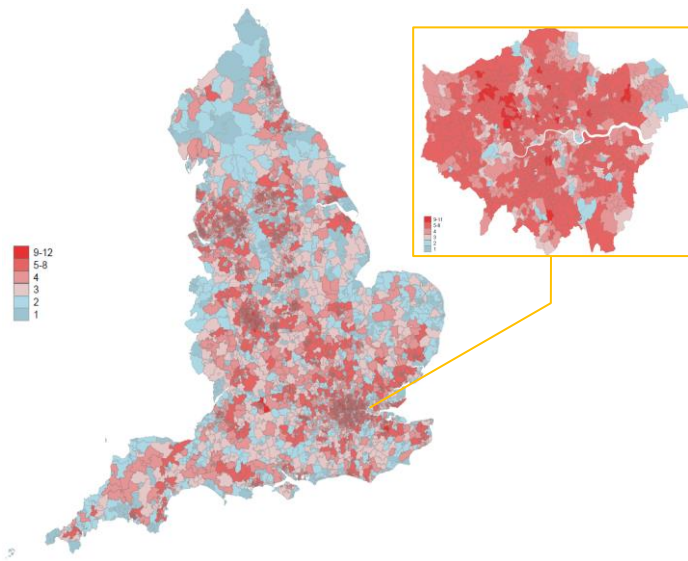


Figure 6.4: Number of PCNs involved in delivering services by MSOA

Notes: 6,791 Middle Super Output Areas (MSOAs) in England. The number of PCNs involved is computed after excluding from the analysis PCNs that contribute less than 1% of MSOA population.

6.4: Discussion

PCN policy originally specified that a patient population of 30,000-50,000 per PCN would allow for optimal operation. Only 58% of the PCNs that have emerged are within this range, with 7% being smaller and 35% being larger than the recommended population size. Some Networks face particular challenges, with twice as many older people and people with chronic conditions as others. The differences in size and characteristics of PCNs will be likely to affect their performance, governance and management.

Chapter 7: Conclusions and comparison with existing literature

The policy of creating networks of practices to collaborate together to provide services is a complex one. As we noted in the introduction, GP practices have collaborated together for different purposes for many years. What is notable about this current policy is its contractual basis and the wide range of policy objectives with which it is associated.

One of the main policy objectives for PCNs is for them to form the basis of comprehensive multi-agency services for particular geographical populations, collaborating with other relevant service providers and local community groups. Our research to date has demonstrated that such interactions with other services may be complicated due to overlapping geographies. This may not matter in some areas, but in others it may create work for other services in trying to establish collaborative structures with multiple PCNs which do not map onto their own service boundaries. This problem is not new – the difficulties associated with district nurse teams interacting with multiple GP practices covering overlapping population is referenced in the Cumberledge report of 1986 (Department of Health 1986) - but needs to be acknowledged and considered in ongoing iterations of PCN policy.

In addition, the governance and organisation of PCNs is complicated. We know from previous research into Practice-based Commissioning (Coleman et al 2009) that joint incentives are not necessarily straightforward, requiring early consideration of how risks and benefits will be shared and how individual practice performance is monitored and overseen. This complexity also means that the employment of staff between practices under the ARRS may not be straightforward. Ongoing research into the employment of new types of workers in primary care highlights the complexity of their incorporation into the work of the practice, with considerable adaptation required in terms of practice processes and active work to support them in becoming members of the practice team (Nelson et al. 2019). We do not know how staff working across more than one practice, with different routines and internal processes will navigate these complexities, and there remain unanswered questions about the most appropriate mechanisms for their employment. Their contribution to managing general practice workload also remains unclear.

Good quality management was crucial in the development of Practice-based Commissioning (Coleman et al. 2009), and it seems likely that the same will be true in PCNs. The initial establishment of PCNs did not provide dedicated resource for management beyond the Clinical Director, but more recently it has been suggested that PCNs should use their £1.50 per patient participation payment to fund a dedicated manager. Our survey found that CCGs have been providing this resource in the early stages of PCN development, and it will be important to understand what is happening in the longer term. The role of CCGs has been important in PCN development to date, with many CCGs providing significant support in addition to managerial expertise. The contractual basis by which PCNs have been established will require CCGs to have an ongoing role in their management and support. CCGs are currently under pressure to merge to cover very much larger geographical areas. Our previous studies of primary care commissioning have shown that commissioning primary care services requires detailed local knowledge and ongoing relationships (McDermott et al. 2019) which may not be present in very large CCGs. It seems likely that effective support of PCNs will require merged CCGs to have robust sub-structures in place to ensure that staff with good local relationships and relevant fine-grained knowledge of their local area are in place.

Policy recommendations:

- If PCNs are to provide population-based care, collaborating with other organisations covering the same geographical area, then relatively coherent geographies will be required. Complexity of PCN footprints would be reduced if out of area registrations were discouraged.
- PCNs and community services should be supported to engage with each other – this will require facilitation by the commissioner, and local contracts may need to take account of these interactions by, for example, including clauses which require services to work together and be flexible over the way that their teams are constituted
- PCNs should be provided with dedicated management resource and encouraged to employ a manager to support the CD
- CCGs should have lead role in supporting PCNs, and if they merge to form large organisations they will need to have robust sub-structures which can support PCNs appropriately. Clarity is required over the respective roles of CCGs and NHSE regional offices

Ongoing issues to be addressed in next phases of the research:

- Governance and collaborative structures
- The operation of the Investment and Impact fund
- Horizontal and vertical collaborations
- The roll out of the service specifications
- The operation of the Additional Roles Reimbursement Scheme, and its impact on practices
- Ongoing quantitative examination of PCN constitution and associated outcomes.

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